Abstract: Africa in a New Oil World: the Game Has Changed, but How?
In contrast to the 20th century, dominated by conventional oil production, the first third of the 21st century will see a dramatic shift to unconventional and deep-water (>400 meter water depth) production. These shifts have led to some claims of oil independence for the United States, a decline in the power of OPEC, and increased oil and gas exploitation and energy independence among some sub-Saharan African nations. However, a careful analysis of the geology, technology, economic, and politics of the new oil domain demonstrates that while the game has changed, the positive elements do come at a cost, and may not last. The key elements are as follows:

- The production of low cost conventional oil peaked in 2005 and is now in decline. This decline, combined with surging demand resulted in a quadrupling of oil prices in the past decade.
- The combination of new technologies and the high price has resulted in a sustained increase in deep-water and unconventional production (heavy oil, shale oil, and natural gas liquids, or NGLs) that has overtaken the conventional decline and stabilized the oil price at the current level.
- As opposed to the lower cost conventional oil reserves in the Middle East and Former Soviet Union, the newly discovered deep-water and unconventional oil reserves are mostly in the Western Hemisphere and Sub-Saharan Africa. The Sub-Saharan African region will see substantial production growth doubling in the 2000-2030 period, reaching 7.2 million barrels per day. The growth is coming from three areas, the deep-water fields in the Southwest Africa trend from Angola to Nigeria, the newly discovered deep-water transform margin trend, stretching from Ghana to Sierra Leone and possibly Guinea, and the East African Rift basins of Kenya and Uganda, the largest conventional oil province discovered in this decade. However, these reserves are costly to produce, have environmental liabilities, and in some cases development has been delayed by geopolitical and economic uncertainties.
- Countries in the Western Hemisphere and sub-Saharan Africa, holding the high cost resources will need to offer a stable commercial environment and attractive fiscal terms to attract the necessary investment for development. Countries holding the low cost conventional reserves, mainly in the Arabian Basin and Former Soviet Union, will have a continuing financial windfall.
- Deep-water production is mainly limited by geologic factors to the Atlantic Margin. The limit on the reserves and production levels will be effectively reached by the end of this decade. Shale oil production also has technical limitations due to high well decline rates.

The current balance of non-renewable oil production increase, mostly from deep-water and unconventional sources, and demand increase, keeping oil prices stable in real dollar terms, should continue through the rest of this decade. However, by 2020, the increase in deep-water oil production will be ended and a decline in U.S. shale oil production will likely begin. In order to avoid the next price squeeze, priorities will need to be sorted between first, environmental concerns associated with increased heavy oil and shale oil production worldwide. Second, allowing a significant increase in conventional production in the Arabian Basin, the only conventional province with excess capacity to meet the increased demand with the resultant shift in income and influence back to this region. Or third, an emphasis on a transition to natural gas and/or renewable energy sources to reduce oil demand.